

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the present amendment and in light of the following discussion, is respectfully requested.

Claims 1 and 3-8 are pending. In the present amendment, Claims 1 and 8 are currently amended. Support for the present amendment can be found in the original specification, for example, at page 7, line 29 to page 8, line 11, at page 14, lines 21-27, and in Figures 1 and 5. Thus, it is respectfully submitted that no new matter is added.

In the outstanding Office Action, Claims 1, 7, and 8 were rejected under 35 U.S.C. § 103(a) as unpatentable over Kemerer et al. (U.S. Patent No. 4,128,369, hereinafter “Kemerer”) in view of DeMello et al. (U.S. Patent No. 5,607,629, hereinafter “DeMello”); Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as unpatentable over Kemerer in view of DeMello, and further in view of Legourd (U.S. Patent No. 3,314,398); and Claims 5 and 6 were rejected under 35 U.S.C. § 103(a) as unpatentable over Kemerer in view of DeMello, and further in view of Hayashi et al. (U.S. Patent No. 4,548,775, hereinafter “Hayashi”).

In response to the rejections under 35 U.S.C. § 103(a), Applicants respectfully request reconsideration of these rejections and traverse these rejections, as discussed below.

Claim 1 recites, in part, an extrusion molding machine comprising a cylinder and a screw to mix and transport the foam material from the storage bin and a mold provided at a front end of the cylinder. The machine also comprises a heater to heat the foam material and the foaming fluid by a plurality of stages from a base end of the cylinder near the storage bin to the front end from an initial temperature below a boiling point of the foaming fluid to a final temperature at which the foaming fluid is completely vaporized. Further, the cylinder internally has a tapered section on an end thereof adjacent to the mold and the tapered section is heated by the heater at the final temperature. Additionally, a first stage of the plurality of

stages of the heater is set above 60°C and below 100°C and a final stage of the plurality of stages is set above 160°C and below 240°C.

As the cylinder of the extrusion molding machine has an internal tapered section on an end thereof adjacent to the mold that is heated by the heater at the final temperature, since the pressure of the resin kneaded by the tapered section increases, the resin can be sufficiently kneaded even when the heating temperature at the section is restrained. It is respectfully submitted that the cited references do not disclose or suggest every feature recited in amended Claim 1.

Kemerer describes an apparatus that enables large area products to be made which extend up to twenty to forty feet long.¹ The apparatus, as shown in Figure 10A of Kemerer, includes a heating zone 18 in which resistance heaters 21-1 through 21-4 are located.² Additionally, Kemerer describes that the power supplied to the heaters 21-1 through 21-4 can be turned on or off such that the heat output of the heaters 21-1 through 21-4 can be controlled.³ The Office Action, in section 3 on pages 3 and 4, relies on DeMello to modify the apparatus of Kemerer to include water as the foaming fluid.

However, it is respectfully submitted that the cited combination of Kemerer in view of DeMello does not disclose or suggest “the cylinder internally having a tapered section on an end thereof adjacent to the mold, the tapered section being heated by the heater at the final temperature,” as recited in amended Claim 1.

Instead, as can be seen in Figures 1A and 10 of Kemerer, the extruder 20 that is surrounded by the heating zone 18 is cylindrical and the interior of the extruder 20 is also cylindrical. Thus, the extruder 20 does not have the claimed tapered section on an end thereof adjacent to the mold. Thus, the resin within the extruder 20 cannot be sufficiently

¹ See Kemerer, at column 1, lines 15-19.

² See Kemerer, at column 18, lines 36-45 and in Figure 10A.

³ See Kemerer, at column 18, lines 48-56.

kneaded at the heater having the final temperature when the temperature within the extruder is restrained.

The Office Action, in section 6 on pages 6 and 7, takes the position that each heater 21-1 through 21-4 described in Kemerer “heat up the extrusion material by individual control capable of having different heat outputs” and “the heaters are capable of outputting the instantly claimed temperatures, and/or such temperatures would have been found due to routine experimentation in finding operable or optimum temperatures depending upon the processing conditions, such as materials used.” Applicants respectfully disagree and traverse this rejection.

On the contrary, Applicants respectfully submit that Kemerer does not disclose that the individual heaters 21-1 through 21-4 should have different individual heat outputs. Thus, Kemerer does recognize the individual heat outputs with respect to one another as a result effective variable capable of being optimized. Accordingly, a person of ordinary skill in the art, without the impermissible hindsight bias from reading the present application, would not find it obvious to optimize the heaters 21-1 through 21-4 of Kemerer to achieve the claimed temperature ranges.

Accordingly, it is respectfully submitted that Kemerer as modified by the water from DeMello does not disclose or suggest every feature recited in amended Claim 1. Thus, it is respectfully requested that the rejection of Claim 1, and Claim 7 which depends thereon, as unpatentable over Kemerer in view of DeMello be withdrawn.

Independent Claim 8 recites, in part, an extrusion molding machine comprising a cylinder, a shearing device, and a heater. Claim 8 also recites “the cylinder internally having a tapered section on an end thereof adjacent to the shearing device, the tapered section being heated by the heater at the final temperature.”

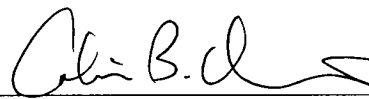
Accordingly, in view of the above discussion with respect to Claim 1, it is respectfully submitted that the cited combination of Kemerer in view of DeMello does not disclose or suggest every feature recited in independent Claim 8. Thus, it is respectfully requested that the rejection of Claim 8 be withdrawn.

Turning now to the remaining rejections of dependent Claims 3-6, it is noted that Claims 3-6 depend on Claim 1 and thus are believed to be patentable for at least the reasons discussed above with respect to Claim 1. Further, it is respectfully submitted that neither of the remaining secondary references (Legourd or Hayashi) cure the above-noted deficiencies of the combination of Kemerer in view of DeMello. Thus, it is respectfully submitted that Claims 3-6 patentably define over the cited references. Accordingly, it is respectfully requested that the rejections of Claims 3-6 be withdrawn.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application and the present application is believed to be in condition for formal allowance. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

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